# Reflex Ocular Symptoms in Nasal Affections.[1]

By E. GRUENING, M.D.,

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In selecting this title for the paper of the evening, I desire to exclude from consideration ocular affections due to an extension of catarrhal disease of the Schneiderian membrane. Such affections are well known, and generally conceded to exist. I wish to lay before you to-night the results of some clinical observations tending to show that certain groups of ocular symptoms may be looked upon as reflex neuroses, and furthermore, that the source of the ocular disturbance may be found in certain alterations of the nasal structures. At present, the view is held by many that asthma, hemicrania, supra- and infra-orbital neuralgia are in many instances but neurotic phenomena due to reflex nasal irritation.

Voltolini demonstrated that asthma may be relieved by the removal of a nasal polypus. Hack mentions a series of two hundred and forty cases of hemicrania and eighty-seven cases of asthma cured by the galvano-caustic de-

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struction of the hypertrophic corpora cavernosa of the nose.

A number of observers following in the wake of Hack's labors report equally favorable results. The immediate cessation of asthma, of hemicrania, of supra-orbital neuralgia, and other symptoms, as a direct consequence of the nasal treatment, argues most forcibly in favor of the reflex nature of these phenomena.

To the ophthalmologist the subject of nasal reflex is of great interest. If an irritable nose may cause grave symptoms in distant parts, why should the neighboring eyes, with their direct nervous and vascular connections, be spared? Reflex ocular symptoms—for instance, lachrymation, conjunctival hyperæmia, photophobia—may be readily obtained by touching certain parts of the Schneiderian membrane with a probe, and *vice versa;* reflex nasal symptoms—for instance, sneezing —may be evoked by exposing certain irritable eyes to a bright light.

In the cases mentioned by Hack and his followers, ocular symptoms are incidentally mentioned. Lachrymation, photophobia, increased vascularity of the ocular and palpebral conjunctiva, pain and pressure in and around the eyes, fluttering scotoma, frequently co-existed with the graver symptoms and passed away with them, in consequence of the nasal treatment. Now, a certain group of ocular symptoms, namely, lachrymation, sensitiveness to ordinary light, and redness of the eyes, are presented by a considerable number of our patients, and yet the examination of their eyes reveals absolutely no anomaly. The refraction may be emmetropic, the vision normal, the conjunctiva sound, the puncta lacrymalia may be open and favorably placed, and the nasal ducts permeable.

For such cases collyria have been prescribed, cold or warm applications recommended, general hygienic measures enjoined—all without the slightest benefit to the patient. Knowing that the symptoms—lachrymation,

photophobia, and increased vascularity—may be evoked at will in all eyes by mechanical irritation of the nasal mucous membrane, may we not logically infer that the continuance of such ocular symptoms may be due to the continuance of a nasal irritation? This is the *à priori* argument, and of conditional value in practical medicine. If, however, in a considerable number of pertinent cases, showing the ocular symptoms in bold relief, local and general treatment prove ineffective, and nasal treatment promptly effective, should we not then present the convincing *à posteriori* argument—"sublata causa, tollitur effectus?"

Of such cases I have observed a large number in the past two years, and I shall cite only a few of them as representatives of this class.

CASE I.—H. S——, aged forty-six. He says, "My eyes have troubled me for twenty years; when I rise in the morning I feel as if I had sand in them; I cannot look at any object in ordinary light; when I converse with any one, I am obliged to put on my blue glasses in order to look at the person. Ordinary daylight and the slightest wind cause my eyes to water. My eyes are always red. I have been treated by every oculist of note in America and Europe. No one has benefited me."

CASE II.—H. S——, aged thirty-four, says: "When I awake in the morning my eyes pain me. They are red and feel dry. After I have bathed my face my eyes feel much better. The transition from the sleeping into the waking state is very trying to my eyes. There is more or less watering and smarting of my eyes all day long. This condition has lasted six years. I was treated the first year, but as the treatment did not relieve me, I discontinued it."

CASE III.—F. L——, aged twenty-four, a clerk, relates his case in the following manner: "In the morning my eyes are slightly glued, they feel very uncomfortable until I have washed them. They feel weak all day. I cannot bear ordinary daylight, but gaslight is still worse.

When a slight wind strikes my face the eyes water. My trouble dates from early childhood. My eyes have been treated, but not improved."

CASE IV.—E. H——, aged twenty-six, a draughtsman, says: "I have a constant pressure behind and around my eyes. At times only in one eye, at times in both. The upper lids feel hot and dry. My eyes water freely in the open air, but never in the house, or when I am at work."

CASE V.—A. E——, aged twenty-six, salesman, makes the following statement: "My eyes feel very weak in the morning. In the street I can hardly open them. At about ten o'clock they feel better. When I attempt to read in the evening a film comes over my eyes and I cannot continue."

In the cases just mentioned the nasal alterations were slight. I found simple catarrhal affections of the Schneiderian membrane, with insignificant swelling of the corpora cavernosa, a condition so common in New York that it may be considered normal. The question will now be asked as to whether we possess any guide, in the pathological appearance of the nasal mucous membrane, pointing to the origin of the neurotic symptoms. This question must be negatively answered at present.

Why this condition should give rise to ocular symptoms in some persons, and not in others, is difficult to explain. It may be due to a special irritability of the terminal nerves of the nasal mucous membrane; it may be due to a special neurotic tendency on the part of the individual. We have a practical guide in the possible efficiency of the nasal treatment for the relief of the ocular symptoms in the use of cocaine. If in these mild cases the instillation of cocaine into the nose relieves the ocular symptoms, we may assume that a simple anti-catarrhal treatment will suffice for the cure of the affection.

But the cases which we encounter are not all of this simple nature. Very frequently we find an immense hy-

pertrophic swelling of the corpora cavernosa of the turbinated bone. This swelling may be found at the anterior or posterior portions of the lower turbinated bones, on the lower edge of the middle turbinated bones. In other cases we have to deal with a stenosis of the nasal passages due to a variety of causes, a combination of hypertrophy of the erectile tissue, cartilaginous excrescences from, and deviations of, the septum. These are the elements with which we must cope in the successful treatment of the reflex ocular symptoms.

A few clinical observations may serve to illustrate the class of cases in which extensive pathological alterations of the nose gave rise to reflex ocular symptoms, but caused no subjective nasal trouble.

Case I.—G. J——, twenty-six years of age, is a polisher of metals. In the past six years he has been greatly troubled by the bright reflexes of metallic surfaces, so much so, that he was obliged to discontinue his work many weeks. Whenever he fixes any object in ordinary daylight, his eyes begin to water. He has been treated with astringents, electricity, internal remedies, chiefly quinine, and absolute repose in a dark room He never derived benefit from any mode of treatment. His eyes are sound, the refraction is emmetropic, the vision normal, the conjunctiva more vascular than usual, the lachrymal apparatus apparently in good condition.

The examination of the nose shows that his mucous membrane is of a bright red color and thickened over the right lower and middle turbinated bones. In spite of this thickening the right side of the nose is spacious, and the turbinated bones are nowhere in contact with the septum.

The left side of the nose presents a stenosis, especially of the lower meatus, where a ridge of cartilage, running from the septum to the inferior turbinated bone, and coalescing with the latter, forms a bridge-like connection. Instillations of two and three per cent. solutions of nitrate of silver into the nose, and the application of

nitrate of silver in substance to the thickened parts of the nasal mucous membrane, were followed by temporary aggravation of the ocular symptoms, and finally, by a slight improvement. This, however, did not satisfy the patient, as he was not yet able to work steadily. I then removed the cartilaginous ridge of the left side of the nose with a punch especially constructed for the purpose. This operation was followed by an immediate cessation of the ocular symptoms. The patient resumed his occupation, remaining under observation six months, during which time no relapse occurred.

Case II.—Miss H——, aged sixteen, gives the following history: "When I rise in the morning my forehead and my eyes pain me very much. My eyes feel dry, and it is hard to open them to the light. When I have washed my face and taken my breakfast, my head and my eyes feel better. The slightest wind causes my eyes to water. I cannot study, because when I begin to look at my books my eyes feel brimful of water, as though they would run over if I continued. In the past two years I consulted several physicians, who prescribed eye-washes and glasses. My eyes are just as bad now as they were two years ago."

The examination of this young girl's eyes shows no anomaly.

The refraction is emmetropic, the vision normal, the conjunctiva pale. The examination of her nose yields the following result: The lower end of the right middle turbinated bone is considerably swelled. The mass obstructs the middle meatus and presses upon the septum. I anæsthetized the nasal mucous membrane with cocaine, and destroyed the swelling with the actual cautery. The relief which this patient obtained was immediate, and thus far permanent.

The frontal morning headache did not return, and the patient can use her eyes without inconvenience. The operation was performed March 5th, and the patient was feeling well on October 5th.

Case III.—H. K——, aged twenty-seven, a merchant of New York, consulted me on June 8, 1885. He related his history as follows: "My eyes began to trouble me when I was twelve years of age, and I have been under treatment fifteen years. I feel my chief annoyance in the morning, when my eyelids are very stiff and I cannot open my eyes. When I am in the open air my eyes water continually, especially in winter. In cold weather my eyes are always red, and the glare of the snow is very painful to me. I have never been able to read at night. Whenever I attempted it my eyes filled with water. I was treated with nitrate of silver in the morning, and ointment in the evening, for four years every day, then for two or three years twice a week, then once a week, then once in two weeks, then once in a month, and was finally discharged, but my eyes were as bad as before. Last year I was in Minnesota, where the cold was extreme and the snow covered the ground. My suffering was intense, and I returned to New York to consult my physician. He resorted to the former mode of treatment—a daily application of nitrate of silver to my lids. I am very much discouraged because my eyes do not improve in spite of so much treatment."

The examination of the eyes of this patient showed, as in the other cases, an emmetropic refraction and normal vision, but a decided hyperæmia of the conjunctiva, and a red and velvety appearance of the palpebral conjunctiva. The examination of the nose gave the following result: The mucous membrane covering the right lower turbinated bone was enormously thickened, and changed into a hard globular mass pressing against the septum, resting upon the floor of the nose, and obstructing the lower meatus. Under the use of cocaine the globular swelling became somewhat smaller, allowing the introduction of the wire loop of Stoerk's snare, by means of which the whole mass was removed. The distressing symptoms from which Mr. K—— had suffered so many years disappeared that very day. I saw my patient on

November 5th, five months after the operation. He stated that his eyes no longer troubled him in the morning, and that he could read several hours in the evening without any discomfort.

In the past two years I examined and treated more than two hundred cases, in which I referred the ocular symptoms to nasal disease.

The treatment adopted for the cure of the nasal affection differed with the character of the pathological changes. Thus, in simple catarrh of the nasal mucous membrane astringents were employed, while in the hypertrophic and the obstructive forms of disease the cautery, the snare, the knife, the punch were resorted to. The treatment was not uniformly successful. A number of patients, terrified by the novelty of the procedure, did not return. Many observations were therefore incomplete, but a sufficient number—a series of 150 patients—remained long enough under treatment and observation to allow the formulation of definite conclusions as to the correlation of ocular symptoms and nasal affections.

The cases here presented have the following features in common:

1. Burning and smarting sensation of the lids or of the eyes, more pronounced in the morning than in daytime.
2. Inability to fix an object in ordinary daylight.
3. Increased vascularity of the conjunctiva, and lachrymation upon slight provocation, such as a mild current of air.
4. Sound condition of the eyes and their appendages.
5. Inefficiency of the ocular and the general treatment.
6. Efficiency of the nasal treatment in spite of the absence of nasal symptoms.